



SAS SYSTEM BUILDER
RESOURCE GUIDE 2008

INTRODUCTION

A significant change has been underway in the server and storage business for some time. Serial Attached SCSI (SAS) has become the preferred interface for hard drives in servers and storage products—particularly from large manufacturers like HP, IBM, Sun and Dell, and increasingly from channel-oriented companies like Intel, Supermicro, AIC and Chenbro. In fact, by mid-2009 the SCSI interface will not be produced by major hard drive manufacturers. This transition by the industry's leading hard drive and server manufacturers threatens to leave system builders behind if they do not prepare for this change. But it also offers a great opportunity to those builders willing to adapt and learn.

The purpose of this document is to give system builders information regarding the transition, to highlight the business opportunities for developing 3.5-inch and 2.5-inch SAS systems for their customers, and to furnish a matrix that will help system builders find companies providing SAS-enabled products.

Small Form Factor SAS— Becoming the Standard

Gartner predicts 2.5-inch SAS drives will be the industry standard by the end of 2008. HP, IBM, Dell and Sun have already moved their industry-standard servers and storage products to SAS configurations—particularly small form factor SAS. For instance, nearly all HP G5 series servers use 2.5-inch SAS drives. What this means is that thousands of SAS-enabled servers are available in the market and in the distribution channel every quarter.

The Benefits of SAS:

- SAS infrastructure supports both SAS and SATA drives on the same backplane
- Lower total cost of ownership
- SAS systems are scalable to more than 16 devices
- Dual-port provides high availability
- SAS utilizes SCSI middleware
- SAS system is universal controller

Small Form Factor Business Opportunity for System Builders

While HP has fully embraced SFF SAS for industry standard servers, other manufacturers have expanded their product lines in this area—giving ample opportunity for system builders to compete. As our matrix in this document shows, many manufacturers who sell through the channel have products that are SAS-enabled, well-known companies like: LSI, Adaptec, Intel, AIC, Chenbro and Supermicro.

For System Builders Not Currently Building Servers

If you are not currently building servers or storage systems, now is the time to add SAS servers and storage systems to your product portfolio.

Seagate Value Proposition

You can rely on drives from Seagate, the number-one enterprise drive manufacturer in the world, and you can expect our support in enabling this new market. Seagate is investing heavily to promote SAS and small form factor SAS technology in the channel. We will be training system builders on SAS and small form factor SAS technology through the Seagate Partner Program and will be working with distributors to bring you business opportunities and bundles with other leading channel companies to bring better value to you and, at the end of the day, higher margins.

Seagate Leadership: SAS for Tiered Storage

To better serve your customers, Seagate offers several choices in SAS drives for both Tier 1 and Tier 2 applications. The Seagate® Savvio® 2.5-inch 10K and 15K drives and the Cheetah® 3.5-inch 10K and 15K drives provide mission-critical Tier 1 options while the Barracuda® ES.2 SAS drive is a 3.5-inch 7200-RPM drive designed for Tier 2 nearline applications.

Seagate Savvio Drives

For mainstream applications, Seagate Savvio 10K and 15K drives are the leading 2.5-inch enterprise drives.

Smaller

- 70 percent smaller than 3.5-inch drives
- More drives in the same space

Higher reliability

- Industry-leading 1.6M hours MTBF
- SAS dual-porting provides redundancy
- Backed by a 5-year limited warranty.

Faster

- 10 percent faster seek times than 3.5-inch 10K
- Higher performance per U (more IOPS/U)
- Over 30 percent faster sustained transfer rates than previous generation

Cooler

- Low power consumption equals cooler-running drives
- 20 percent less power than 3.5-inch drives
- 2.5-inch size enables more airflow to cool processors
- Result: lower overall costs

2.5-inch Tier 1 Best-Fit Applications

- Mainstream enterprise applications
- File and print
- Blade servers
- Rack and tower servers
- Storage arrays



Seagate Cheetah Drive

The Seagate Cheetah 15K.6 and Cheetah NS drives set a new standard for storage cost-effectiveness with an unprecedented blend of performance, capacity and reliability.

Eco-friendly

- PowerTrim™ technology provides 62 percent improvement in GBs/watt at idle.

Lower cost

- Greater areal density means fewer drives, reducing supporting infrastructure, maintenance and space while boosting system reliability

Higher performance

- Unprecedented performance with a sustained data rate of up to 164 MB/s

Better availability

- Reduces RAID rebuild times
- Minimizes reliability risk exposure
- Nonrecoverable error rate improved by 10X

3.5-Inch Tier 1 Best-Fit Applications

- Email
- Business processing
- Transaction processing
- Storage area networks
- Network attached storage
- Internet and e-commerce



Seagate Barracuda ES.2 SAS Drives

Designed for high-capacity enterprise storage applications in the tier 2 (nearline) storage area, where dollars/GB and GB/watt are a primary concern, the Seagate Barracuda ES.2 SAS drive provides world-leading technology and value.

Unbeatable performance – 135% increase over SATA

- Full duplex I/O, 7200 RPM
- Top performer in sequential read/writes
- Improved rotational vibration for use in enterprise cabinetry

Superior data integrity

- SAS = Full Read and Write Error Correction and Detection (IOECC/IOEDC) vs. SATA with IOECC/IOEDC on Writes and only IOEDC (Error Detection) on Reads
- Dual-port SAS for fail-over and data recovery in shared storage environments

Investment protection

- Seamless SAS-SATA connectivity (no interposer cards necessary)
- Compatible with all existing SCSI software and middleware

Eco-Friendly

- 12.5 watts operating and 9 watts idle temperature – only 1-watt increase over SATA
- PowerTrim™ technology reduces power consumption, heat and energy costs without sacrificing performance

Simplicity and continuity

- Easy, enterprise-level management with multi-host support – 16:1 = SAS:SATA

True enterprise Tier 2 to offload Tier 1 storage

- Supports up to 1 TB for storage-hungry applications
- Designed for 24x7 operations, 1.2M hours MTBF
- Hot-swappable drives and simple four-wire cabling makes serviceability quick and easy
- Improved reliability with SAS by eliminating the single point of failure of single-ported SATA drives

3.5-Inch Tier 2 Best-Fit Applications

- Maximum-capacity servers
- Rich media content storage
- Reference and compliance data storage
- Video surveillance



	Type	Interface	SAS Port Count				Adapter Count								Sockets		
			Internal		External		PCI	PCI-X	PCIe x2	PCIe x4	PCIe x8	PCIe x12	PCIe x16	PCIe x32	HTx (Riser)	Count	Type
			X1	x4 (SFF-8482)	X1	x4 (SFF-8470)											
Arima																	
LH510-SAS	MoBo	SAS	4			1		2			2					2	mpg604
NM460	MoBo	SAS	8					2			2				1	2	F
NM462	MoBo	SAS	8								2				1	2	F
NM477	MoBo	SAS	8								2					2	F
NM478	MoBo	SAS	8								2					2	F
NM479	MoBo	SAS	8					1			2					2	F
Asus																	
KFN4-D16/SAS	MoBo	SAS	2				1	3					1		1	2	F
KFN32-D SLI /SAS	MoBo	SAS	2				2	2			1		2			2	1207
DSBF-D/SAS	MoBo	SAS		2			1	3			1		1			2	771
P5M2/SAS	MoBo	SAS		2			1	2					2			1	775
DSBF-D12/SAS	MoBo	SAS		2				2			2		1			2	771
DSGC-DW/SAS	MoBo	SAS		2			1	2			1	1				2	771
DSBF-DE/SAS	MoBo	SAS		2				2			3		1			2	771
DSBV-DX/SAS	MoBo	SAS	8				1	2			2					2	771
DSBF-D16/SAS	MoBo	SAS	8					1					3			2	771
Flextronics																	
DPK66S-SAS	MoBo	SAS	8				1	2			1		2			2	771
Gigabyte																	
GA-7BESH-RH w/GC-SAS01-RH	MoBo	SAS	8				1	2			3					2	771
GA-7GEWH-RH	MoBo	SAS	8					2			1		1			2	771
Intel																	
S5000PAL w/SAS expansion module	MoBo	SAS	4		4			1		4					2	2	771
S5000PSLSAS w/SAS expansion	MoBo	SAS	4		4			2		2	2					2	771
S5000PSLSASR w/SAS expansion	MoBo	SAS	4		4			2		2	2					2	771
S5000PSLR0MBR	MoBo	SAS	8		4			2			2		2			2	771
S5000XVNSASR	MoBo	SAS	4		4			2		2			1			2	771
S5000VSASASR	MoBo	SAS	4		4		1	2		2						2	771
S5400SF W/SAS expansion module	MoBo	SAS	4		4											2	771
MSI																	
K9ND Master-S4R	MoBo	SAS	4				1	1			2				1	2	F
5000V Master2-S8M	MoBo	SAS	8				1	2		1	1					2	771
SuperMicro																	
X7DA3+	MoBo	SAS	6				1	3		1			1			2	771
X7QC3	MoBo	SAS	8					1		1	2					4	mPGA4
X7DCL-3	MoBo	SAS	8				1			1	2					2	771
X7DB3	MoBo	SAS		2				3		1	2					2	771
X7DBR-3	MoBo	SAS		2							2					2	771
X6DH3-G2	MoBo	SAS		2			1	3			2					2	mPGA4
X6DHR-3G2 (OEM)	MoBo	SAS		1		1		2			2					2	mPGA4
X6DHP-3G2 (SuperServer Only)	MoBo	SAS		1		1					2					2	mPGA4
X6DA3-G2	MoBo	SAS		2			1	3		1			1			2	mPGA4
Tyan																	
Thunder n6650W (S2915)	MoBo	SAS	8				1	2					4			2	F
Thunder n3600R (S2912)	MoBo	SAS	4										2		1	2	F
Thunder i7520D (S5360-D)	MoBo	SAS	4	1			1	5		1		1				2	604
Thunder i7522 (S5362)	MoBo	SAS	4	1			1	4			1					2	604
Tempest i5000PW (S5382)	MoBo	SAS	8				1	4					2			2	771
Tempest i5000PT (S5383)	MoBo	SAS	8								2					2	771
Tempest i5000VS (S5372-LH)	MoBo	SAS	8				1	1		1	1					2	771
Tempest i5000VS (S5372-LC)	MoBo	SAS	8				1	1		1	1					2	771
Tempest i5400XT (S5396)	MoBo	SAS	8				1	2			1		2			2	771
Tomcat h1000E (S3970G2N-U)	MoBo	SAS	8				4	1								2	F
Tomcat h1000E (S3970-E)	MoBo	SAS	8				4	1								2	F
Thunder n3600M (S2932)	MoBo	SAS	8				1	3					2			2	F

SAS Controller		RAID Options	Form Factor	Memory		RJ45 (10/100/1000)	USB	Website
Make	Model			Slots	Max			
LSI	SAS1064	0,1	12"x 13" SSI EEB	8	16	2	4	www.arima.com.tw
Vitesse	VSC7250	0, 1, 10	12"x 13" SSI EEB	16	64	2	8	www.arima.com.tw
Vitesse	VSC7250	0, 1, 10	12"x 13" SSI EEB	16	64	2	8	www.arima.com.tw
Vitesse	VSC7250	0, 1, 5, 10	12"x 13" SSI EEB	16	64	2	8	www.arima.com.tw
Vitesse	VSC7250	0, 1, 5, 10	12"x 13" SSI EEB	16	64	2	8	www.arima.com.tw
Vitesse	VSC7250	0, 1, 5, 10	12"x 13" SSI EEB	16	64	2	8	www.arima.com.tw
LSI	SAS1068	0, 1, 5, 10	12"x 13" SSI EEB	16	64	2	2	www.asus.com
LSI	SAS1068	0, 1, 1E, 5	12"x 13" SSI EEB	8	32	2	3	www.asus.com
LSI	SAS1068	0, 1, 1E, 5	12"x 13" SSI EEB	8	32	2	2	www.asus.com
LSI	SAS1068	0, 1, 1E, 5	12" * 9.6", ATX	4	8	2	2	www.asus.com
LSI	SAS1068	0, 1, 1E, 5	12"x 13" SSI EEB	12	48	2	2	www.asus.com
LSI	SAS1068	0, 1, 1E, 5	12"x 13" SSI EEB	8	32	2	4	www.asus.com
LSI	SAS1068	0, 1, 1E, 5	12"x 13" SSI EEB	8	32	2	2	www.asus.com
LSI	SAS1068	0, 1, 1E, 5, 10, 50	12"x 10.5" SSI EEB	6	24	2	2	www.asus.com
LSI	SAS1068	0, 1, 1E, 5, 10, 50	12"x 13" SSI EEB	16	64	2	2	www.asus.com
LSI	1068		12" x 13" SSI EATX	16	64	2	6	www.flextronics.com
LSI	SAS1068	0, 1, 10	12"W x 13"D EATX	8	32	2	7	www.gigabyte.com.tw
LSI	SAS1068	0, 1, 5, 10	12"W x 13"D EATX	8	32	2	8	www.gigabyte.com.tw
LSI	SAS1064	0, 1, 5, 10		8	32	2	2	www.intel.com
LSI	SAS1064	0, 1, 5, 10		8	32	2	2	www.intel.com
LSI	SAS1064	0, 1, 5, 10		8	32	2	2	www.intel.com
LSI	SAS1064	0, 1, 5, 10		8	32	2	2	www.intel.com
LSI	SAS1064	0, 1, 5, 10		8	32	2	2	www.intel.com
LSI	SAS1064	0, 1, 5, 10		8	16	2	2	www.intel.com
LSI	SAS1064	0, 1, 5, 10		16	64	2	2	www.intel.com
LSI	SAS1064E		E-ATX 30.48cm x 33.02cm	16	64	2	2	www.iwill.net
LSI	SAS1068	0, 1, 1D		6	16	2	2	www.msi.com.tw
Adaptec	AIC9410	0, 1, 10	12" x 13" EATX	8	32	2	6	www.supermicro.com
LSI	SAS1068E	0, 1, 5, 10	16 x 14.3 (proprietary)	24	192	2	5	www.supermicro.com
LSI	SAS1068E	0, 1, 5, 10	12" x 10" ATX	6	32	2	5	www.supermicro.com
Adaptec	AIC9410	0, 1, 10	12" x 13" EATX	8	32	2	5	www.supermicro.com
Adaptec	AIC9410	0, 1, 10	12" x 13" EATX	8	32	2	5	www.supermicro.com
Adaptec	AIC9410	0, 1, 10	12" x 13" EATX	8	16	2	4	www.supermicro.com
Adaptec	AIC9410	0, 1, 10	12"W x 13"D EATX	8	16	2	4	www.supermicro.com
Adaptec	AIC9410	0, 1, 10	9.6 x 16.2 (proprietary)	8	16	2	4	www.supermicro.com
Adaptec	AIC9410	0, 1, 10	12" x 13" EATX	8	16	2	8	www.supermicro.com
LSI	SAS1068E	0, 1, 1E	12" x 13" SSI EATX	8	32	2	10	www.tyan.com
LSI	SAS1064E	0, 1, 1E	12" x 13" SSI EATX	8	32	2	8	www.tyan.com
Adaptec	AIC-9410W	0, 1, 10	12" x 13" SSI EATX	8	32	2	6	www.tyan.com
Adaptec	AIC-9410W	0, 1, 10	12" x 13" SSI EATX	8	16	2	8	www.tyan.com
LSI	SAS1068E	0, 1, 1E	12" x 13" SSI EATX	16	64	2	8	www.tyan.com
LSI	SAS1068E	0, 1, 1E	12" x 13" SSI EATX	16	64	2	2	www.tyan.com
Adaptec	AIC9410	0, 1, 10	12" x 10.5" ATX	6	24	2	2	www.tyan.com
Adaptec	AIC9410	0, 1, 10	12" x 10.5" ATX	6	24	2	2	www.tyan.com
Adaptec	AIC9410	0, 1, 5, 10	12" x 13" SSI EATX	8	32	2	2	www.tyan.com
Adaptec	AIC9410	0, 1, 10	12" x 10.2" ATX	8	32	2	2	www.tyan.com
Adaptec	AIC9410	0, 1, 10	12" x 10.2" ATX	8	32	2	4	www.tyan.com
LSI	SAS1068E	0, 1, 1E	12" x 13" SSI EATX	16	64	2	4	www.tyan.com

	Type	Interface	SAS Port Count				Website
			HDD		Form Factor		
			Drive Size	Drive Count	Form Factor	U	
Adjile							
ESS16S-J1000S_R	JBOD	SAS	3.5	16		3U	www.adjile.com
ESS12S-J1000S_R	JBOD	SAS	3.5	12		2U	www.adjile.com
4U Universal-SAS	Chassis	SAS	3.5	16		4U	www.adjile.com
3U Universal-SAS	Chassis	SAS	3.5	16		3U	www.adjile.com
2U Universal-SAS	Chassis	SAS	3.5	9		2U	www.adjile.com
1U Universal-SAS	Chassis	SAS	3.5	4		1U	www.adjile.com
AIC							
XC-12-2	Canister	SAS	2.5	2	1 x 5.25	N/A	www.aicipc.com
XC-23D-2	Canister	SAS	3.5	3	2 x 5.25	N/A	www.aicipc.com
XC-23D1-0-R	Canister	SAS	3.5	3	2 x Tower FF	N/A	www.aicipc.com
XC-28-2	Canister	SAS	2.5	8	2 x 5.25	N/A	www.aicipc.com
XC-34D1-0-R	Canister	SAS	3.5	4	3 x ODD bays	N/A	www.aicipc.com
RSC-1A-2	Chassis	SAS	2.5	10	EATX (12" x 13")	1U	www.aicipc.com
RSC-2A-SA1-2	Chassis	SAS	2.5	24	EATX (12" x 13")	2U	www.aicipc.com
RSC-2EC2-2	Chassis	SAS	3.5	16	EATX (12" x 13")	2U	www.aicipc.com
RSC-3ED2-2	Chassis	SAS	3.5	16	EATX (12" x 13")	3U	www.aicipc.com
RSC-3KD2-2	Chassis	SAS	3.5	12	EATX (12" x 13")	3U	www.aicipc.com
RSC-4KD2-2	Chassis	SAS	3.5	16	EATX (12" x 13")	4U	www.aicipc.com
Adaptec							
335SAS	Canister	SAS	3.5	4	3 x 5.25	N/A	www.adaptec.com
S50	JBOD	SAS	3.5	12		2U	www.adaptec.com
Akiwa\Guanghsing Industrial Co., LTD.							
GHK-425	Canister	SAS	2.5	4	1 x 5.25	N/A	www.akiwa.com
GHA-FM06	Canister	SAS	3.5	1	1 x 5.25	N/A	www.akiwa.com
GHI-180	Chassis	SAS	3.5	4	ATX (12" x 13")	1U	www.akiwa.com
GHI-192	Chassis	SAS	3.5	2	ATX (12" x 13")	1U	www.akiwa.com
GHI-240	Chassis	SAS	3.5	4	ATX (12" x 13")	2U	www.akiwa.com
GHI-283	Chassis	SAS	3.5	4	ATX (12" x 13")	2U	www.akiwa.com
GHI-290	Chassis	SAS	3.5	12	ATX (12" x 13")	2U	www.akiwa.com
GHI-293	Chassis	SAS	3.5	4	ATX (12" x 13")	2U	www.akiwa.com
GHI-390	Chassis	SAS	3.5	16	ATX (12" x 13")	3U	www.akiwa.com
GHI-480	Chassis	SAS	3.5	16	ATX (12" x 13")	4U	www.akiwa.com
GHI-481	Chassis	SAS	3.5	14	ATX (12" x 13")	4U	www.akiwa.com
GHI-583	Chassis	SAS	3.5	24	ATX (12" x 13")	5U	www.akiwa.com
GHI-584	Chassis	SAS	3.5	24	ATX (12" x 13")	5U	www.akiwa.com
Arena Maxtronic							
SS-6651E	Chassis	Fibre	3.5	16		3U	www.maxtronic.com
SS-6652E	Chassis	SAS	3.5	16		3U	www.maxtronic.com
SS-6692J	JBOD	SAS	3.5	16		3U	www.maxtronic.com
Chenbro							
RM13106	Chassis	SAS	2.5	6	EEB (12"X13")	1U	www.chenbro.com
RM31212T2-B	Chassis	SAS	3.5	12	EATX (12" x 13")	3U	www.chenbro.com
SR107 (w/ SAS Canister)	Chassis	SAS	3.5	8	Tower	Tower	www.chenbro.com
SR108 (w/ SAS Canister)	Chassis	SAS	3.5	8	Tower	Tower	www.chenbro.com
83H802107	Canister	SAS	3.5	4	N/A	N/A	www.chenbro.com
84H210710	Canister	SAS	3.5	4	N/A	N/A	www.chenbro.com
SK33502	Canister	SAS	3.5	5	N/A	N/A	www.chenbro.com
RM51224B	Chassis	SAS	3.5	24	EATX (12" x 13")	5U	www.chenbro.com
RM51924B	Chassis	SAS	3.5	24	EATX (12" x 13")	5U	www.chenbro.com
RM41416B	Chassis	SAS	3.5	16	EATX (12" x 13")	4U	www.chenbro.com
RM31212B	Chassis	SAS	3.5	12	EATX (12" x 13")	3U	www.chenbro.com
RM21508B	Chassis	SAS	3.5	8	EATX (12" x 13")	2U	www.chenbro.com
RM12404B	Chassis	SAS	3.5	4	EATX (12" x 13")	1U	www.chenbro.com
RM11704B	Chassis	SAS	3.5	4	EATX (12" x 13")	1U	www.chenbro.com

	Type	Interface	SAS Port Count				Website
			HDD		Form Factor		
			Drive Size	Drive Count	Form Factor	U	
CI Design							
SR 104	Chassis	SAS	3.5	4	EATX (12" x 13")	1U	www.cidesign.com
SR 208	Chassis	SAS	3.5	8	EATX (12" x 13")	2U	www.cidesign.com
SR 212	Chassis	SAS	3.5	12	EATX (12" x 13")	2U	www.cidesign.com
SR 316	Chassis	SAS	3.5	16	EATX (12" x 13")	2U	www.cidesign.com
SR 420	Chassis	SAS	3.5	20	EATX (12" x 13")	4U	www.cidesign.com
SR 524	Chassis	SAS	3.5	24	EATX (12" x 13")	5U	www.cidesign.com
SR 1100i	Chassis	SAS	3.5	2	EATX (12" x 13")	1U	www.cidesign.com
SR 1204	Chassis	SAS	3.5	2	EATX (12" x 13")	1U	www.cidesign.com
SR 1205	Chassis	SAS	2.5	4	EATX (12" x 13")	1U	www.cidesign.com
SR 1400	Chassis	SAS	3.5	4	EATX (12" x 13")	1U	www.cidesign.com
SR 4100i	Chassis	SAS	3.5	4	EATX (12" x 13")	2U	www.cidesign.com
CRU-Dataport							
DataPort 4 Bay Mini SAS	JBOD	SAS	2.5	4	N/A	Tower	www.cru-dataport.com
DataPort 10 SAS	Canister	SAS	3.5	1	1 x 5.25	N/A	www.cru-dataport.com
Dataport 25 SAS	Canister	SAS	2.5	1	1 x 3.5	N/A	www.cru-dataport.com
Data Express DE275	Canister	SAS	3.5	1	1 x 5.25	N/A	www.cru-dataport.com
Enhance							
Q14SS	Canister	SAS	2.5	4	1 x 5.25	N/A	www.enhance-tech.com
StorPack S23	Canister	SAS	3.5	3	2 x 5.25	N/A	www.enhance-tech.com
StorPack S34	Canister	SAS	3.5	4	3 x 5.25	N/A	www.enhance-tech.com
StorPack S35	Canister	SAS	3.5	5	3 x 5.25	N/A	www.enhance-tech.com
E4 ML/E4 SS	JBOD	SAS	3.5	4	N/A	Tower	www.enhance-tech.com
E8 ML/E8 SS	JBOD	SAS	3.5	8	N/A	Tower	www.enhance-tech.com
R4 ML/R4 SS	JBOD	SAS	3.5	4	N/A	1U	www.enhance-tech.com
R8 ML/R8 SS	JBOD	SAS	3.5	8	N/A	2U	www.enhance-tech.com
R16 SS	JBOD	SAS	3.5	16		3U	www.enhance-tech.com
T5 SS	Chassis	SAS	3.5	5		Tower	www.enhance-tech.com
Germane Systems							
GS9310	JBOD	SAS	2.5	10	N/A	3U	www.germanesys.com
LSI							
1331/1333	Chassis	SAS	3.5	12		2U	www.lsi.com
1532	Chassis	iSCSI	3.5	12		2U	www.lsi.com
1932	Chassis	FC	3.5	12		2U	www.lsi.com
Infortrend							
EonStor S12F-R/G1420	Chassis	FC	3.5	12		2U	www.infortrend.com
EonStor S16F-R/G1430	Chassis	FC	3.5	16		3U	www.infortrend.com
EonStor S12S-R1032	Chassis	SAS	3.5	12		2U	www.infortrend.com
EonStor S12S-G1030	Chassis	SAS	3.5	12		2U	www.infortrend.com
EonStor S16S-R1030/G1030	Chassis	SAS	3.5	16		3U	www.infortrend.com
S12S-J1000-G	JBOD	SAS	3.5	12		2U	www.infortrend.com
S12S-J1002-R	JBOD	SAS	3.5	12		2U	www.infortrend.com
S16S-J1000-S/R	JBOD	SAS	3.5	16		3U	www.infortrend.com
Newisys							
SA 2120	JBOD	SAS	3.5	12		2U	www.sanmina-sci.com
One Stop Systems							
OSS-RAID-4-x4	Chassis	SAS	3.5	4		1U	www.onestopsystems.com
OSS-RAID-12-x8	Chassis	SAS	3.5	12		3U	www.onestopsystems.com
PDE Technology							
E302 11-0427	JBOD	SAS	3.5	2	N/A	Tower	www.pdetechnology.com
E304 11-0428	JBOD	SAS	3.5	4	N/A	Tower	www.pdetechnology.com
11-0555	Chassis	SAS	3.5	4	N/A	1U	www.pdetechnology.com
Polywell Computers							
2Bay8HD	Canister	SAS	2.5	8	2 x 5.25	N/A	www.polywell.com
Suma P2012JB	JBOD	SAS	3.5	12	N/A	2U	www.polywell.com

	Type	Interface	SAS Port Count				Website
			HDD		Form Factor		
			Drive Size	Drive Count	Form Factor	U	
Polywell Computers (cont'd)							
Suma SA212JB	JBOD	SAS	3.5	24	N/A	2U	www.polywell.com
Suma SA316JB	JBOD	SAS	3.5	16	N/A	3U	www.polywell.com
Promise							
VTE610sS (Single Ctrl RAID)	Chassis	SAS	3.5	16		3U	www.promise.com
VTE610sD (Dual Ctrl RAID)	Chassis	SAS	3.5	16		3U	www.promise.com
VTE310sS (Single Ctrl RAID)	Chassis	SAS	3.5	12		2U	www.promise.com
VTE310sD (Dual Ctrl RAID)	Chassis	SAS	3.5	12		2U	www.promise.com
VTJ610sS (Single Ctrl JBOD)	Chassis	SAS	3.5	16		3U	www.promise.com
VTJ610sD (Dual Ctrl JBOD)	Chassis	SAS	3.5	16		3U	www.promise.com
VTJ310sS (Single Ctrl JBOD)	Chassis	SAS	3.5	16		2U	www.promise.com
VTJ310sD (Dual Ctrl JBOD)	Chassis	SAS	3.5	16		2U	www.promise.com
Rancho							
MaxiStor4-2-2U	JBOD	SAS	2.5	16	N/A	2U	rancho.com
MiniStor4-1-1U	JBOD	SAS	2.5	8	N/A	1U	rancho.com
SAS4-35-IU	JBOD	SAS	3.5	4	N/A	1U	rancho.com
MiniStor 4-0	Canister	SAS	2.5	4	1 x 5.25	N/A	rancho.com
MiniStor 4-1	Canister	SAS	2.5	4	1 x 5.25	N/A	rancho.com
MiniStor 4-2	Canister	SAS	2.5	4	1 x 5.25	N/A	rancho.com
RT-eSAS	JBOD	SAS	2.5	4	N/A	N/A	rancho.com
SuperMicro							
CSE-M14T	Canister	SAS	2.5	4	1 x 5.25	N/A	supermicro.com
CSE-M28E1	Canister	SAS	2.5	8	2 x 5.25	N/A	supermicro.com
CSE-M28E2	Canister	SAS	2.5	8	2 x 5.25	N/A	supermicro.com
BPN-SAS-823TQ	Backplane	SAS	N/A	N/A	N/A	N/A	supermicro.com
SC743TQ-R760	Chassis	SAS	3.5	8	EATX (12" x 13")	4U	supermicro.com
SC813TQ-520C	Chassis	SAS	3.5	4	EATX (12" x 13")	1U	supermicro.com
TST							
ESR-102	CHASSIS	SAS	3.5	2	EATX (12" x 13")	1U	www.tstcom.com
ESR-104	CHASSIS	SAS	3.5	4	EATX (12" x 13")	1U	www.tstcom.com
ESR-208	CHASSIS	SAS	3.5	8	EATX (12" x 13")	2U	www.tstcom.com
ESR-210	CHASSIS	SAS	3.5	10	EATX (12" x 13")	2U	www.tstcom.com
ESR-212	CHASSIS	SAS	3.5	12	EATX (12" x 13")	2U	www.tstcom.com
ESR-308	CHASSIS	SAS	3.5	8	EATX (12" x 13")	3U	www.tstcom.com
ESR-316	CHASSIS	SAS	3.5	16	EATX (12" x 13")	3U	www.tstcom.com
ESR-524	CHASSIS	SAS	3.5	24	EATX (12" x 13")	5U	www.tstcom.com
Xtore							
XJ-SA13-110R-S	JBOD	SAS	2.5	10	EATX (12" x 13")	1U	www.xtore.com
XJ-SA26-110R-S	JBOD	SAS	2.5	10	EATX (12" x 13")	1U	www.xtore.com
XJ-SA13-224R-S	JBOD	SAS	2.5	24	EATX (12" x 13")	2U	www.xtore.com
XJ-SA26-224R-S	JBOD	SAS	2.5	24	EATX (12" x 13")	2U	www.xtore.com
XJ-SA13-212R-S	JBOD	SAS	3.5	12	EATX (12" x 13")	2U	www.xtore.com
XJ-SA26-212R-S	JBOD	SAS	3.5	12	EATX (12" x 13")	2U	www.xtore.com
XJ-SA12-316R-S	JBOD	SAS	3.5	16	EATX (12" x 13")	3U	www.xtore.com
XJ-SA24-316R-S	JBOD	SAS	3.5	16	EATX (12" x 13")	3U	www.xtore.com
XJ-SA24-448R	JBOD	SAS	3.5	48	EATX (12" x 13")	4U	www.xtore.com
XD-S226-316R-S	JBOD	SAS	3.5	16	EATX (12" x 13")	3U	www.xtore.com
XD-F224-316R-S	JBOD	SAS	3.5	16	EATX (12" x 13")	3U	www.xtore.com

	Type	Interface	Configuration			
			HDD		Form Factor	
			Drive Size	Drive Count	Form Factor	U
Arima						
NM47X	Server	SAS	3.5	8	19" x 27.6"	1U
Flextronics						
S2224	Server	SAS	2.5	24	19" x 28"	2U
Germane Systems						
GS1370	Server	SAS	2.5	2	17" x 18"	1U
GS1375	Server	SAS	2.5	2	17" x 18"	1U
GS1500	Server	SAS	2.5	4	17" x 18"	1.5U
GS2100	Server	SAS	2.5	3	17" x 14"	2U
GS2150	Server	SAS	2.5	3	17" x 14"	2U
GS3460	Server	SAS	2.5	2	17" x 17"	3U
GS10100	Server	SAS	2.5	4	17" x 14"	10U
Gigabyte						
GS-R127H-RH	Server	SAS	3.5	4	19" x 26.6"	1U
Intel						
SR1500AL	Server	SAS	3.5	3	19" x 27.6"	1U
SR1550AL	Server	SAS	2.5	8	19" x 27.6"	1U
SR2500AL	Server	SAS	3.5	6	19" x 27.6"	1U
SR1560SFHS	Server	SAS	3.5	3	16.9" x 27.25"	1U
S7000FC4UR	Server	SAS	2.5	8		4U
SR9000MK4U	Server	SAS	3.5	8		4U
SR2520SAXRS	Server	SAS	3.5	6		2U
SR1530HCLS	Server	SAS	3.5	3		
SC5400RA	Server	SAS	3.5	6		
MSI						
K2-104-S3M	Server	SAS	3.5	3	19" x 27.6"	1U
X2-203-S6R	Server	SAS	3.5	6	19" x 27.6"	2U
X2-108-S4M	Server	SAS	3.5	4		1U
X2-106-S3R	Server	SAS	3.5	3	467mm x	1U
Polywell Computers						
Poly Raxx 1102SS	Server	SAS	3.5	2	16.8 x 22.6	1U
PolyServer 8415SS32	Server	SAS	3.5	3	17.2 x 27.8	1U
PolyRaxx 1114SS16	Server	SAS	3.5	4	19 x 25.6	1U
PolyRaxx 2012SSLP	Server	SAS	3.5	12		2U
PolyRaxx 3116SSE1/2	Server	SAS	3.5	16	17.2 x 25.6	3U
PolyServer 2500SA16-1U4	Server	SAS	2.5	4	17.2 x 25.6	1U
PolyRaxx 4024SS	Server	SAS	3.5	24		4U
PolyRaxx 5124SAS	Server	SAS	3.5	24	19 x 28	5U
Supermicro						
SuperServer 6015X-3V	Server	SAS	3.5	3	19" x 27"	1U
SuperServer 6015B-URV	Server	SAS	3.5	4	17.2" x 25.6"	1U
SuperServer 6015B-UV	Server	SAS	3.5	4	17.2" x 25.6"	1U
SuperServer 6015B-3V	Server	SAS	3.5	4	17" x 25.6"	1U
SuperServer 6015V-M3	Server	SAS	3.5	4	17.2" x 19.8"	1U
SuperServer 6015C-M3	Server	SAS	3.5	4	17.2" x 19.8"	1U
SuperServer 5015M-UV	Server	SAS	3.5	4	17.2" x 25.6"	1U
SuperServer 5015M-URV	Server	SAS	3.5	4	17.2" x 25.6"	1U
SuperServer 6014P-32R	Server	SAS	3.5	4	17.2" x 27"	1U
SuperServer 6014P-32	Server	SAS	3.5	4	17.2" x 27"	1U
SuperServer 6014H-32	Server	SAS	3.5	4	17.2" x 25.6"	1U
SuperServer 6024H-32	Server	SAS	3.5	6	16.8" x 25.6"	2U
SuperServer 6024H-32R	Server	SAS	3.5	6	16.8" x 25.6"	2U
SuperServer 8025C-3RB	Server	SAS	3.5	6	17.2" x 25.6"	2U
SuperServer 7045B-3	Server	SAS	3.5	8	17.2" x 25.6"	4U
SuperServer 7045A-3	Server	SAS	3.5	8	17.2" x 25.6"	4U
SuperServer 8045C-3RB	Server	SAS	3.5	5	17.8" x 29.4"	Tower
SuperServer 7044H-32R	Server	SAS	3.5	8	17.2" x 25.5"	Tower
SuperServer 7044A-32	Server	SAS	3.5	8	17.2" x 25.5"	Tower

Adapter Type						Website
PCI-X	PCIe x2	PCIe x4	PCIe x8	PCIe x12	HTx (Riser)	
1				2		www.arima.com.tw
2			1			www.flextronics.com
2						www.germanesys.com
1						www.germanesys.com
3						www.germanesys.com
3						www.germanesys.com
6						www.germanesys.com
7						www.germanesys.com
6						www.germanesys.com
1			1			www.gigabyte.us
1		4			2	www.intel.com
1		4			2	www.intel.com
1		4			2	www.intel.com
				1	1	www.intel.com
		3	4			www.intel.com
						www.intel.com
2		2				www.intel.com
1			1			www.intel.com
2		1	3			www.intel.com
			1		1	www.msi.com.tw
	2	2	1		1	www.msi.com.tw
			1			www.msi.com.tw
1			2			www.msi.com.tw
				1		www.polywell.com
						www.polywell.com
						www.polywell.com
						www.polywell.com
			1			www.polywell.com
						www.polywell.com
2		1		1		www.supermicro.com
1			2			www.supermicro.com
1			2			www.supermicro.com
2			2			www.supermicro.com
			1			www.supermicro.com
			1			www.supermicro.com
		1	1			www.supermicro.com
		1	1			www.supermicro.com
			2			www.supermicro.com
			2			www.supermicro.com
			2			www.supermicro.com
3			2			www.supermicro.com
3			2			www.supermicro.com
1		1	2			www.supermicro.com
3			2			www.supermicro.com
3				2		www.supermicro.com
1		1	2			www.supermicro.com
2			2			www.supermicro.com
2		1		1		www.supermicro.com

	Type	Interface	Configuration			
			HDD		Form Factor	
			Drive Size	Drive Count	Form Factor	U
Tyran						
Transport VX50 (B4985-E)	Server	SAS	3.5	4		5U
Transport GT24 (B2912-E)	Server	SAS	3.5	4		1U
Transport GT26 (B4987-E)	Server	SAS	3.5	3		1U
Transport GT24 (B2932-E)	Server	SAS	3.5	4		1U
Transport GT24 (B3992-E)	Server	SAS	3.5	4		1U
Tank GT24 (B5383)	Server	SAS	3.5	4		1U
Transport TA26 (B2932-E)	Server	SAS	3.5	8		2U
Transport TA26 (B3992-E)	Server	SAS	3.5	8		2U
Transport TX46 (B4985)	Server	SAS	3.5	2		2U
Transport TA26 (B3892)	Server	SAS	3.5	8		2U
Tank FT48 (B5382)	Server	SAS	3.5	8		Tower
Transport FT48 (B4985)	Server	SAS	3.5	8		4U
Xtore						
RSC-1D-SA10-2	Server	SAS	3.5	4	19" x 27.6"	1U

SAS Switches

	Type	Interface	U	Website
Rancho				
RSI-SAS36X	Expander	SAS	1U	www.rancho.com
RTSASR-12X	Expander	SAS	1U	www.rancho.com
RTSASRFO-12X	Expander	SAS	1U	www.rancho.com

Adapter Type						Website
PCI-X	PCIe x2	PCIe x4	PCIe x8	PCIe x12	HTx (Riser)	
		2		2		www.tyan.com
						www.tyan.com
				1	1	www.tyan.com
			1			www.tyan.com
				1		www.tyan.com
3				2		www.tyan.com
3				2		www.tyan.com
		2		2		www.tyan.com
3				2		www.tyan.com
4				2		www.tyan.com
				4		www.tyan.com
1						www.aicipc.com

	Type	Interface	SAS Connectors			
			Internal		External	
			X1	X4	X1	X4
3Ware (AMCC)						
9690SA-8I	HBA	SAS		2		
9690SA-8E	HBA	SAS				2
9690SA-4I4E	HBA	SAS		1		1
Accusys						
ACS-92000	Controller	Fibre				
ACS-93000	Controller	SAS				
Atto						
H308	HBA	SAS		2		
H380	HBA	SAS				2
R348	HBA	SAS		2		1
R380	HBA	SAS				2
Adaptec						
3085	HBA	SAS			2	
3405	HBA	SAS	1			
3805	HBA	SAS	2			
4000	HBA	SAS				
31205	HBA	SAS	3			
31605	HBA	SAS	4			
44300	HBA	SAS		1		
48300	HBA	SAS		1		1
4800SAS	HBA	SAS		2		1
4805SAS	HBA	SAS		2		1
58300	HBA	SAS				2
Ciprico						
RC5110-04/08	HBA	SAS				
RC5152-04/08	HBA	SAS				
RC5210	HBA	SAS				
RC5252-04	HBA	SAS		1		
RC5252-08	HBA	SAS		2		
RC5252-12	HBA	SAS		3		
RC5252-16	HBA	SAS		4		
LSI						
SAS3041X-R	HBA	SAS	4			
SAS3041E-R	HBA	SAS	4			
SAS3442X-R	HBA	SAS		1		1
SAS3442E-R	HBA	SAS		1		1
SAS3080X-R	HBA	SAS		2		
SAS3800X	HBA	SAS				2
SAS3801X	HBA	SAS				2
SAS3801E	HBA	SAS				2
SAS3081E-R	HBA	SAS		2		
MegaRAID SAS 8204ELP	HBA	SAS		1		
MegaRAID SAS 8204XLP	HBA	SAS		1		
MegaRAID SAS 8208ELP	HBA	SAS		2		
MegaRAID SAS 8208XLP	HBA	SAS		2		
MegaRAID SAS 8308ELP	HBA	SAS		2		
MegaRAID SAS 84016E	HBA	SAS		4		
MegaRAID SAS 8704ELP	HBA	SAS		1		
MegaRAID SAS 8708ELP	HBA	SAS	2			
MegaRAID SAS 8408E	HBA	SAS		2		
MegaRAID SAS 8480E	HBA	SAS				2
Promise						
SuperTrakEX4650	HBA	SAS		1		
SuperTrakEX8650	HBA	SAS		2		
SuperTrakEX8654	HBA	SAS		1		1
SuperTrakEX8658	HBA	SAS				2
FastTrakTX2650	HBA	SAS	2			
FastTrakTX4650	HBA	SAS	4			

Adapter Type						RAID	Website
PCI-X	PCIe x1	PCIe x2	PCIe x4	PCIe x8	PCIe x12		
				•		0, 1, 5, 6, 10, & 50	www.3ware.com
				•		0, 1, 5, 6, 10, & 50	www.3ware.com
				•		0, 1, 5, 6, 10, & 50	www.3ware.com
						0, 1, 3, 5, 6, 10, 30, 50, 60, JBOD, and NRAID	www.accusys.com.tw
						0, 1, 3, 5, 6, 10, 30, 50, 60, JBOD, and NRAID	www.accusys.com.tw
				•		0	www.attotech.com
				•		0	www.attotech.com
				•		0,1,4,5, & 6	www.attotech.com
				•		0,1,4,5, & 6	www.attotech.com
				•		0, 1, 1E, 5, 5EE, 6, 10, 50, 60	www.adaptec.com
			•			0, 1, 1E, 5, 5EE, 6, 10, 50, 60	www.adaptec.com
			•			0, 1, 1E, 5, 5EE, 6, 10, 50, 60	www.adaptec.com
•						0,1,10,5,50	www.adaptec.com
				•		0, 1, 1E, 5, 5EE, 6, 10, 50, 60	www.adaptec.com
				•		0, 1, 1E, 5, 5EE, 6, 10, 50, 60	www.adaptec.com
•						0, 1, & 10	www.adaptec.com
•						0, 1, & 10	www.adaptec.com
•						0, 1, 5, 10, 50 & 1E, 5EE, 6, 60 option	www.adaptec.com
				•		0, 1, 5, 10, 50 & 1E, 5EE, 6, 60 option	www.adaptec.com
•						0, 1, & 10	www.adaptec.com
•						0,1,& 10	www.ciprico.com
•						0, 1, 5, 10, 50, 1n, & 10n	www.ciprico.com
			•			0,1,& 10	www.ciprico.com
			•			0, 1, 5, 10, 50, 1n, & 10n	www.ciprico.com
			•			0, 1, 5, 10, 50, 1n, & 10n	www.ciprico.com
				•		0, 1, 5, 10, 50, 1n, & 10n	www.ciprico.com
				•		0, 1, 5, 10, 50, 1n, & 10n	www.ciprico.com
•						0, 1, 1E & 10E	www.lsi.com
			•			0, 1, 1E, & 10E	www.lsi.com
•						0, 1, 1E, & 10E	www.lsi.com
•						0, 1, 1E, & 10E	www.lsi.com
				•		0, 1, 1E, & 10E	www.lsi.com
•						N/A	www.lsi.com
•						N/A	www.lsi.com
•						N/A	www.lsi.com
•						0,1,1E, & 10E	www.lsi.com
•						0,1,5, & 10	www.lsi.com
				•		0,1,5, & 10	www.lsi.com
				•		0,1,5, & 10	www.lsi.com
			•			0,1,5, & 10	www.lsi.com
•						0,1,5,10, & 50	www.lsi.com
			•			0,1,5,10, & 50	www.lsi.com
•						0,1,5,6,10,50, & 60	www.lsi.com
			•			0,1,5,6,10,50, & 60	www.lsi.com
				•		0,1,5,10, & 50	www.lsi.com
			•			0,1,5,10, & 50	www.lsi.com
				•		0, 10, 1E, 5, 6, 50, 60	www.promise.com
				•		0, 10, 1E, 5, 6, 50, 60	www.promise.com
				•		0, 10, 1E, 5, 6, 50, 60	www.promise.com
				•		0, 10, 1E, 5, 6, 50, 60	www.promise.com
	•					0, 1, 10	www.promise.com
	•					0, 1, 10, 5	www.promise.com

The above lists represent products on the market as of the date of this publication. Seagate provides this information for reference purposes only and makes no representation as to compatibility of the products mentioned with Seagate products. Please contact the companies listed for specific product information.

Seagate Technology LLC 920 Disc Drive, Scotts Valley, CA 95066

Copyright © 2008 Seagate Technology LLC. All rights reserved. Printed in USA. Seagate, Seagate Technology and the Wave logo are registered trademarks of Seagate Technology LLC in the United States and/or other countries. Cheetah and Savvio are either trademarks or registered trademarks of Seagate Technology LLC or one of its affiliated companies in the United States and/or other countries. All other trademarks or registered trademarks are the property of their respective owners. When referring to hard drive capacity, one gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes. Your computer's operating system may use a different standard of measurement and report a lower capacity. In addition, some of the listed capacity is used for formatting and other functions, and thus will not be available for data storage. Seagate reserves the right to change, without notice, product offerings or specifications. RG500.4-0807US, July 2008

